

VegNet

The Vegetable and Fruit Crops Teams Newsletter

<http://vegnet.osu.edu>

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Cuyahoga County Update

from *Jacqueline Kowalski, MA,*
Extension Educator, Agriculture and
Natural Resources

Many of the area farmers' markets opened last weekend or will open this weekend. Due to cooler weather farmers continue to harvest product which would have normally already been harvested by this time. Weather conditions have been slightly dry this week.



Cleveland Urban Ag Planting
Photo by Jacqueline Kowalski

2014 Upcoming Events

- **July 8-** Cover Crop Cocktail & Soil Health Field Night at OSU South Centers. For details contact Charissa McGlothin at 740.289.2071 ext. 132 or mcglothin.4@osu.edu
- **July 15-** Bramble, Blueberry and Wine Grape Field Night, South Centers at OSU South Centers. For details contact Charissa McGlothin at 740.289.2071 ext. 132 or mcglothin.4@osu.edu
- **July 17-** Hops Field Night in Wooster, Ohio. Contact Charissa McGlothin at 740.289.2071 ext. 132 or mcglothin.4@osu.edu

To list your upcoming events in future additions of the VegNet newsletter, please send details to bergeford.1@osu.edu

OSU South Centers Update at Piketon

from Thom Harker & Ryan Slaughter, Research Assistant OSU South Centers

This week the farm crew has went across the hop yard and removed all leaves and laterals from the bottom 2- 3 feet of the hops bines. This practice is necessary to encourage airflow across the hop yard in order to prevent the formation of downey mildew. Netting over blueberries was also installed this week to prevent bird damage to the berries. Pruning and training has continued in the vineyard to open up canopy for air circulation and sun penetration.



Grapevine pruning continues

Photo by Ryan Slaughter



Hop pruning continues

Photo by Ryan Slaughter



Bird Netting installed on blueberry

Photo by Ryan Slaughter



Lateral pruning of hops

Photo by Ryan Slaughter

Hardin County Report

from Mark A. Badertscher, Agriculture and Natural Resources Educator, OSU Extension Hardin County

At Brinkman's Greenhouse near Arlington (southern Hancock County) reports that Jennifer Brinkman about what was going at the present time with the greenhouse operation. This photo shows watermelon starts that will soon be transplanted into the field (see photo 1).

Fans, shades, vents, and misters are used to regulate temperature for the tomato plants (see photo 2).

A variety of herbs are an emerging market for customers who are looking for natural ways to prepare foods using their own plants (see photo 3).

A selection of squash (pictured) and cucumber plants were available for customers to purchase for planting in their own gardens and produce patches (see photo 4).



Photo 1 Watermelon seedlings
Photos by Mark Badertscher



Photo 2 Temperature management in greenhouse
Photos by Mark Badertscher



Photo 3 Herb plants
Photos by Mark Badertscher



Photo 4 Squash and cucumber transplants
Photos by Mark Badertscher

Southern Ohio Vegetable and Fruit Update

from Brad Bergefurd, Ohio State University Extension Educator, Ohio State University Extension Scioto County and OSU South Centers

Growing and field conditions have been wet this week with frequent rains and some areas receiving isolated heavy rainfall. Most areas are reporting 1 to 2 inch rainfall totals for the week and supplemental irrigation has not been needed. Sweet corn is 2 to 3 weeks away from harvest in Highland and Pike counties.



Sweet corn harvest is about 3 weeks away on early plastic plantings

Photos by Brad Bergefurd

Field varieties of zucchini planted in tunnels are not pollinating due to a lack of pollinators. High tunnel therefore parthenocarpic zucchini varieties adapted for tunnel production should be selected. For more information, see http://extension.usu.edu/files/publications/publication/Horticulture_HighTunnels_2011-01pr.pdf.

Tomato harvest is in full swing throughout the area, with gray mold and Sclerotinia stem rot disease continues to be reported. Tobacco Mosaic Virus has been diagnosed on grafted heirloom tomatoes purchased from an out-of-state greenhouse. With this positive diagnosis, the growers are removing these plants from the tunnel and field to reduce the spread of the virus to other varieties. For more information on virus disease see these fact sheets http://ohioline.osu.edu/hyg-fact/3000/pdf/PP401_05.pdf and <http://>

vegetablemdonline.ppath.cornell.edu/factsheets/Viruses_Tomato.htm.



Tobacco Mosaic virus in the right row was diagnosed in out-of-state grown grafted heirloom tomato varieties

Photos by Brad Bergefurd

Pythium crown and root rot may have been found in bell and hot pepper fields in Washington county. Isolation of the pathogens is currently being performed by Sally Millers plant pathology lab at Wooster. Field harvest of cucumbers, summer squash, zucchini, peas, turnips, red beets, tat-soi, peas, mizuna spinach, head and leaf lettuce and strawberry continues.

Plasticulture strawberry harvest has wound down with the last of the Camino Real variety being harvested yesterday 6/12. Spring harvest



San Andreas Strawberry variety being renovated for a summer harvest

Photos by Brad Bergefurd

of San Andreas and other summer-bearing varieties is complete.

These varieties are being renovated in preparation for a summer harvest which will begin in 4 to 6 weeks.

Farms are reporting total plasticulture strawberry harvest at only 20% to 30% compared to last season's record-breaking harvest. Matted-row strawberry



Plasticulture strawberry harvest is almost complete here Camino Real variety is harvested for the last time on 6/12

Photos by Brad Bergefurd

harvest is in full swing with good yields and high quality being reported.

Watermelon and cantaloupe are in full bloom with total vine coverage between rows. Weed pressure is increasing in all vegetable and fruit fields and cultivation, hand hoeing and post emergent herbicide applications are being performed. Direct seeding and transplanting of all vegetable crops continues. Seeding of vegetable transplants in greenhouses especially cauliflower, broccoli and cabbage continues. Staking and stringing of tomatoes, cucumbers and peppers continues. Ground continues to be worked, fertilizer spread, beds formed and plastic and drip lines installed for late spring plantings.



Each plant is producing two ears

Photos by Brad Bergefurd



Traditional field zucchini varieties grown in tunnels will not pollinate due to a lack of pollinators

Photos by Brad Bergefurd



Grafted heirloom tomato infected with Tobacco Mosaic Virus

Photos by Brad Bergefurd

Mahoning County Update

from Eric Barrett, Extension Educator & Assistant Professor, Mahoning County

- Strawberry picking began this week. Strawberries are ripening all over Mahoning County, but demand is great for the ripe berries! See photo 1.
- Blueberries are pushing right along. See photo 2.
- Early tomatoes which were started under high tunnels are doing quite well! See photo 3.
- Late hot house tomatoes will be ready in just a few weeks. See photo 4.
- Jacqueline Kowalski teaches micro green production to farmers in Youngstown. See photo 5.



Photo 1

Photo by Eric Barrett



Photo 2

Photo by Eric Barrett



Photo 3

Photo by Eric Barrett



Photo 4

Photo by Eric Barrett



Photo 5

Photo by Eric Barrett

Hops Research Update, Wooster

Chelsea Smith, Research Assistant, OSU Department of Entomology

Downy mildew infection is still prevalent in the hop yard after two applications of Copper. The field crew will continue to spray the field with fungicides. On a more positive note, we are almost done training and will be pruning back extra vegetation, which should help improve the downy mildew situation.



Downy mildew infection

Photo by Chelsea Smith



Training and pruning continues

Photo by Chelsea Smith

What's new with herbicides for vegies

from Doug Doohan, Professor Department of Horticulture and Crop Science

Many new options are available for growers to try. Be aware of rotation crop restrictions as you consider the following options. Lorox, Reflex, and Spartan all have pretty extensive soil activity, and require various plant-back interval.

Dual Magnum is the foundation of weed control for many vegetable crops including cabbage, peppers, and pumpkins. The recent Ohio Section 24C (EPA Reg. 100-816; EPA SLN No. OH-110002), now provides for applications to additional crops including beet, radish, carrot, cucumber, broccoli, chive (fresh leaf), garlic (bulb), box choy and napa cabbage, collards, kale, mustard green, rape and turnip green, spinach, melons, squash, and cilantro. Remember Dual Magnum does not control emerged weeds, and cultivation will be needed to provide complete weed control. Specific instructions for use on each crop or crop group can be found at http://pested.osu.edu/documents/24_C_Labels/OH-110002.pdf.

Lorox too is also a standby herbicide for vegetables that has been used for decades. Recent label changes clarify and/or establish its use on cilantro/coriander, parsley, dill, celeriac, rhubarb and horseradish. For cilantro/coriander, dill and parsley PRE and POST applications are permitted with up to a total of 4 pounds/acre on cilantro/ coriander and dill, and up to 3 pounds/ Acre on parsley. The POST application to parsley is only permitted when grown on a muck soil. The pre-harvest internal (PHI) for cilantro/coriander and for dill is 21 days, and for parsley 30 days. The supplemental label is available at <http://www.cdms.net/LDat/ld266009.pdf>.

Spartan can be applied to transplant cabbage (processing only), and transplant tomato. For cabbage the rates range from 2 ¼ -12 oz/acre depending on soil texture and for tomato from 2 ¼ to 8 oz. Spartan must be applied before transplanting and will improve control of several broadleaf weeds and also nutsedge. Crop safety will be best in medium to heavy textured soils with pH levels of 6.5 or less.

Spartan Charge can also be used on transplant cabbage and is not restricted to processing varieties only. Spartan Charge combines burn-down and residual activity. For grass control an additional burn-down herbicide will be required. Applications can be PRE to transplanting or banded between the rows of transplanted cabbage up to 72 hours after the transplanting operation. Spartan Charge is also registered on peppers as an Ohio Section 24 (EPA SLN No. OH-130004) for application between-rows of plastic mulch. Application can be pre or post-transplant and should be done with a shielded sprayer. Application after transplanting should be delayed until peppers have recovered from transplant shock.

Edamame is one of those crops that some might have considered growing, but held off because of weed control worries. Until recently there were no registered herbicides. All of that has changed recently through efforts of researchers across the country, along with support from registrants and the IR-4 program. Registered products include Lorox, Dual Magnum, and Reflex. Together they provide the basis for a pretty complete weed control package. Residual grass control with Dual Magnum applied PRE, can be expanded to include many broadleaf weeds by tank-mixing with Lorox. Reflex, was just labeled this year to be applied POST to control emerged broadleaf weeds.

North Central Research Station and Northwest Ohio Update

from Allen Gahler, Extension Educator, Agriculture and Natural Resources, Sandusky County

Field crop planting is 90% completed across most of the area, with less progress to the East and South of Sandusky county where farmers have struggled to get enough days with suitable ground conditions. Wheat is fully headed and looking good, but hay growers are struggling to find windows in between rains to cut and dry hay. Strawberry harvest is in full swing, and vegetable producers have a majority of transplanting done, with continued direct seedings of sweet corn, potatoes, and cucurbits.

At the research station, final transplanting should be finished this week, which only leaves a pumpkin trial to be seeded. The crew has been busy with insecticide and fertilizer applications, and weeding trial plots. The sweet corn trials are showing noticeable differences in emergence, vigor, and stand count, and we have discovered one variety of peppers that apparently have tastier leaves than the other according to our friend the white-tailed deer! Other pest problems have been insignificant thus far but we will begin monitoring insect traps regularly next week.



Noticeable differences in germination and emergence in sweet corn

Photos by Allen Gahler

Muck Crop Update

from Robert Holthouse of D.R. Walcher Farms and Holthouse Farms



Pepper growth is excellent
Photo by Robert Holthouse



Pepper plantings are looking good
Photo by Robert Holthouse



Pepper staking and tying has begun
Photo by Robert Holthouse



Cabbage field is growing well
Photo by Robert Holthouse



No issues on recently planted cabbage
Photo by Robert Holthouse

White Rot of Alliums – Onions and Garlic

From Sally Miller, Department of Plant Pathology, OSU, OARDC

For the second year in a row, Ohio growers have reported finding white rot in garlic. White rot is caused by the fungus *Sclerotium cepivorum*, and it attacks members of the onion family including, but not limited to, garlic, onions and leeks. This is a particularly difficult disease to manage. The fungus produces very small (.25 – 0.5 mm) round structures called sclerotia that can survive in soil for 20 years. Therefore, soils that become infested with these sclerotia cannot be used for production of Alliums for many years.

Typical symptoms above-ground include yellowing and wilting of leaves. Bulbs and roots rot and plants can be pulled easily from the ground. The disease is favored by cool, rainy weather, and under these conditions white fluffy growth of the fungus and the sclerotia can be seen on rotting bulbs.



White rot of onions. White growth at the base of the bulbs; small, round, black sclerotia of the fungus *Sclerotium cepivorum* may be embedded in the white fluffy growth (right).

Photo by Sally Miller

The best means of managing this disease is through prevention. Use only *Allium* planting material that is free of disease. Dipping seed garlic in hot, but not boiling water (between 115°F and 120°F) can reduce the inoculum load. However, once the disease is present in the field, every effort should be made to prevent the pathogen from moving to clean soil. Infected plant debris should be destroyed and equipment, tools, shoes, etc. should be cleaned and sanitized after exposure to infested soil. For smaller plantings, diseased plants and soil immediately around them can be removed carefully (without dropping any in non-infested areas) and burned or placed in a landfill. They should not be added to compost piles as sclerotia may survive if the composting process is not uniform and/or sufficiently high temperatures are not reached. Certain biostimulants that “trick” the fungus into germinating in the absence of an *Allium* crop have been recommended. Information on biostimulants and fungicides (not very effective) can be found at <http://www.ipm.ucdavis.edu/PMG/r584100511.html>.

While white rot and white mold share certain pathogen characteristics and environmental conditions for disease development are similar, the diseases are not the same. White mold is a common disease of many dicot crops and is caused by *Sclerotinia sclerotiorum*. White fungal growth can also be found on affected plants, but sclerotia are much larger and irregular in shape. If you are concerned that *Allium* plants on your farm may have white mold, you may submit a sample, free of charge, to the OSU Vegetable Pathology Lab, 1680 Madison Ave., Wooster, OH 44691. Information on sample submission can be found here http://www.oardc.ohio-state.edu/sallymiller/t08_pageview3/Diagnostics_Services.htm or contact Sally Miller (miller.769@osu.edu; 330-263-3678) or Fulya Baysal-Gurel (gurel.2@osu.edu).

Wayne County IPM Scouting Program Update

from *Rory Lewandowski, Extension Educator, Agriculture and Natural Resources*

Asparagus: Scouts are noting the presence of both asparagus beetles and in some patches the number is over threshold.

Cole crops: Cabbage, Cauliflower and Broccoli: Flea beetles have greatly increased and many cole crops had numbers over threshold, triggering a recommendation for treatment. Some imported cabbage worm larvae were noted in cabbage and broccoli.

Onions and Garlic: Thrips are generally present but at low levels, well below threshold.

High tunnel tomatoes: Scouts reporting tomatoes at bloom and fruit set stage of development, with some ripening. Botrytis, early blight, pith necrosis and timber rot/white mold diseases were noted by scouts (attachment with photos by Christine Smedley of timber rot on plant and sclerotia inside stem). Flea beetles at low numbers were also found in some high tunnel tomatoes.

Field tomatoes: Some beginning to bloom. Light flea beetle feeding noted.

Sweet corn: In various fields and across planting dates ranged in size from one inch to fourteen inches in height. Some light slug damage and light cutworm damage observed by scouts in several plantings.

Zucchini and Summer Squash: Cucumber beetles at threshold in some fields. Scouts noted a few instances of angular leaf spot and blossom end rot on some fruit.

Melons: Scouts noted a few cucumber beetles in some fields. Ground hog damage (eating plants) was found in a couple of fields.

Potatoes: Both flea beetles and Colorado potato beetles (CPB) were noted at threshold levels with recommendations that growers begin rescue treatments. Scouts noted eggs, larvae and adults of CPB.

Peppers: Most peppers had just recently been transplanted into fields and looked good. Scouts did note some light feeding by flea beetles on some plants.

Green/Snap Beans: Most plantings looked good. A few had bean leaf beetle feeding damage at threshold level.



Timber rot on high tunnel tomato

Photo by Rory Lewandowski



Sclerotia inside tomato stem with timber

Photo by Rory Lewandowski

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COLLEGE OF FOOD, AGRICULTURAL, AND
ENVIRONMENTAL SCIENCES

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Submit Articles:

To submit an article to the VegNet newsletter please send the article and any photos to **Brad Bergefurd** at bergefurd.1@osu.edu or for questions regarding the newsletter call 740.289.2071 ext.132.

About the editor

Brad Bergefurd

Bergefurd is an Extension Educator, Agriculture and Horticulture Specialist with Ohio State University Extension, with statewide responsibilities for outreach and research to the agriculture and commercial fruit and vegetable industries Brad has offices at the OSU Piketon Research & Extension Center in Piketon and at OSU Extension Scioto County in Portsmouth.



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